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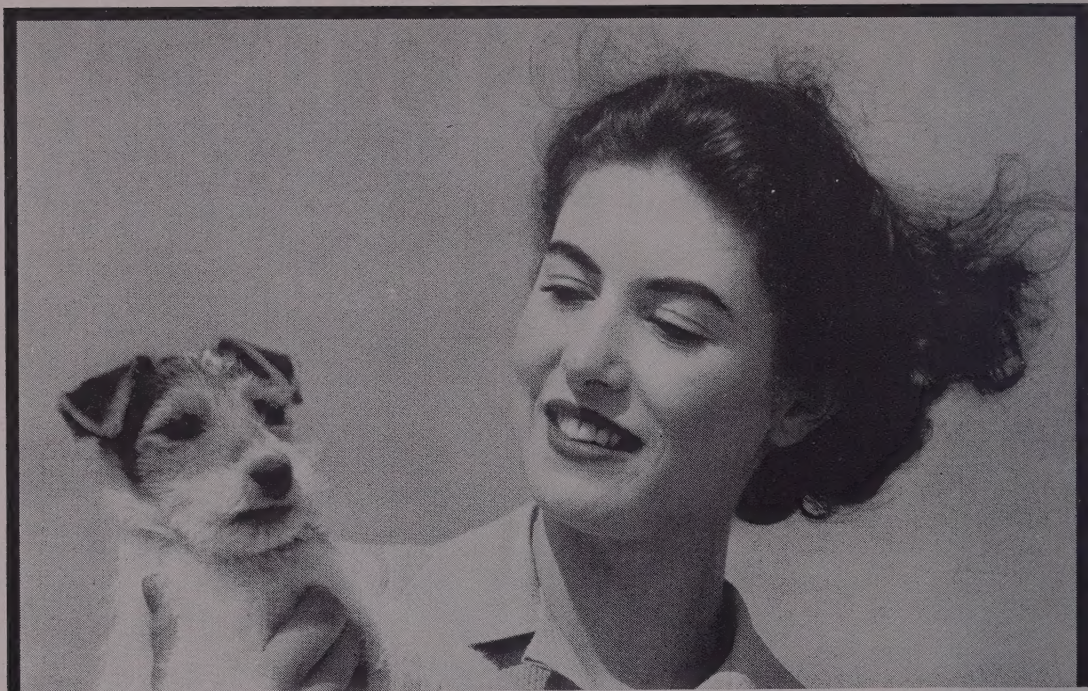
Autumn Number



climbing with
Hillary
GEORGE LOWE

NEPAL
ELLA
MAILLART

Waters of
the Nile
ANTHONY SMITH



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With Hillary in the New Zealand Alps

by GEORGE LOWE

In his book High Adventure Sir Edmund Hillary tells how, in 1950, "George Lowe set off the spark that finally got us both to the Himalayas" and records this old friend's part in the 1953 Everest team. Their common training-ground was the New Zealand Alps. Mr Lowe was a member of the advance party of the Trans-Antarctic Expedition under the leadership of Dr Fuchs (see our January 1956 number) and will accompany the Main Party which is due to leave for Antarctica in November

TEN years ago Sir Edmund Hillary and I began climbing. For the first five years we climbed, during holidays, in the Southern Alps of New Zealand and during the last five years we have climbed each year in the Himalayas. A few weeks ago I returned to New Zealand and flew over the mountains among which we had climbed together. While looking for a suitable training area for the New Zealand party which is to go to the Antarctic continent later this year we could not help comparing New Zealand's mountains with the Himalayas and reminiscing on the days when we had learned the craft of climbing. After five years away in the Himalayas there was a sneaking feeling that the mountains of our youth were perhaps not as big and tough as we remembered. These sneaking doubts were completely gone when in sparkling sunshine we touched down at the small airstrip in the Tasman valley after flying up the glaciers and around the icy spires of the highest peaks in the range.

The highest peak in New Zealand's Southern Alps is some 12,000 feet high, not half the height of Everest, but altitude alone does not make a mountain. A mountain has character and personality from its shape, its setting and the way it thrusts above the pedestal on which it stands. Mt Cook and Mt Tasman, the king and queen of the Southern Alps, are very great mountains, down from whose summits sweep exciting blades of ice to supporting buttresses of rock and great ice-cwms which tumble innumerable tons of ice into glaciers ten thousand feet below, some almost reaching sea level. Cook and Tasman are only two of the seventeen summits above 10,000 feet in the central part of the range while north and south hundreds of peaks stretch 150 miles each way. To the west from the summits, fast-flowing glaciers and rivers run steeply down to the sea only twelve miles away; to the east the glaciers melt into wandering skeiny

streams which flow to milky glacial lakes on high brown tussock plateaux, then fall to the broad Canterbury Plain and out to sea. In this respect the Southern Alps are similar in formation to the Himalayas with the deeply cut, heavily forested, wet south side of Everest tumbling into Nepal while the north descends easily into the high russet plateau of Tibet.

The Southern Alps stretch generally north and south whereas the Himalayas run east and west, but both lie across the prevailing winds. The Southern Alps stand in the path of the prevailing westerlies which hurry across the southern oceans causing fierce and sudden storms at any time of the year. The precipitation of rain and snow is great—between 150 and 250 inches in a year—but there are many tranquil glorious climbing days. I feel that the bad-weather stories of the New Zealand mountains are quite overdone as people tend to think we fight our way to the summits through continual screaming north-westerly storms and deluges of snow. This is not so: the mountains have their tempests but to balance them there are many golden days of settled weather when great climbs can be done. In our five seasons we have always managed to get days enough to achieve climbs beyond our wildest ambitions.

Ten years ago I first saw the Southern Alps when I obtained a position on the 'outdoor staff' of the Hermitage, an hotel at the foot of Mt Cook. I had been told that I should be helping the mountain guides keep the tracks in order and carry stores of food, kerosene and blankets to the mountain huts. For the first ten days all I did was to clean the enormous windows of the hotel, to cart and crack rocks for a new terrace in front and to shell innumerable sacks of green peas for the Christmas dinner. The weather was fine, the mountains looked inviting, especially Mt Cook which glowed pink in the setting sun. I didn't think I'd ever learn enough about

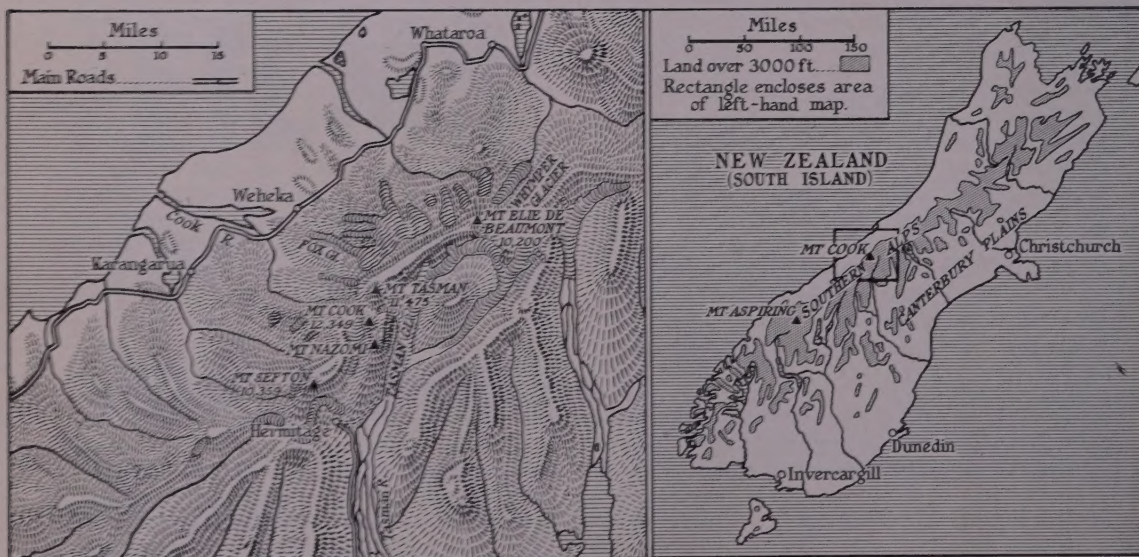
climbing to reach the top. I listened avidly to all the discussions and stories of the guides. For the first season I did very little climbing of peaks but I visited all the huts and crossed the passes almost always with Harry Ayres, one of New Zealand's greatest mountaineers. The second season was almost a repetition of the first, with the added attainment of two fine summits and, although I didn't appreciate it then, a fund of mountain lore, a knowledge of routes and a reverent attitude towards the mountains which I had learned from the mountain guides.

On one of my first journeys to the huts I met Edmund Hillary who, I remember, looked very brown and purposeful setting off to climb with a friend. We joined for the climb to the mountain hut and I found they had recently been discharged from the Air Force and were spending some accrued leave together. Each had different interests, one wanted to pan gold in the mountain streams while the other wanted to climb. It was Ed who wanted to climb and he had persuaded his friend to combine climbing with prospecting. They started climbing first and their programme became so energetic that Ed's friend was worn out long before they started prospecting.

For some years I met Edmund Hillary annually in the mountains but I did not climb with him until we had each separately made a great number of ascents. He soon became one of the leading climbers, attempting new and difficult ridges on the highest mountains.

One of Ed's greatest climbs, of which he

has told me many times, was the first ascent of the South Ridge of Mt Cook with Harry Ayres. With another pair, Miss Ruth Adams and Mick Sullivan, they attempted the ridge leading to the third summit of the mountain. For some years many parties had attempted the unclimbed ridge and failed. The party set out from the Gardiner Hut and climbed Nazomi, the mountain which gives access to the long South Ridge. Here they slept under the stars with light bivouac sleeping-bags and set out early the following day. From the summit of Nazomi they reached the start of the South Ridge, climbing up and over the first two big rock-steps that led to the next and last rock-difficulty. Steep tongues of ice led them up into the face of vertical rock some sixty feet high. They tried various lines of attack, one where Harry Ayres climbed onto Ed's shoulders and used his head for a foothold. With his hands and body squirming and gripping he forced his way a few feet higher until all the handholds became too insignificant to support him. He cast about desperately and then announced that he was going to fall down. Ed was in a most insecure position to check his fall but tensed himself to take in the rope. Harry released one grip, turned slightly to find some less steep place to land. His free hand searched the rock and by chance found a minute hold which supported his weight. Lowering himself inches at a time he found an insignificant knob for his foot. Ed stretched his arms high and was able to touch Harry's feet. With shouted directions Harry released





From

Approach to the Southern Alps of New Zealand can sometimes be very difficult. There are few roads closer to the peaks than two or three days' march. The sudden flooding of tributary streams may make the journey quite hazardous and crossing rivers using a rope is an essential technique learned by all mountaineers. Here two climbers are crossing a raging stream near Mt Aspiring

his handholds and his weight came onto Ed's upstretched arms and from there to a foot on either shoulder and so safely down on the rock ledge from where they had started their attempt. Meanwhile their companions on the second rope, Ruth and Mick, were watching these attempts with some apprehension.

They rested and ruminated. Harry wanted to try again further to the right this time, right on the corner where the face overhung the glacier. They moved out to a ledge on the very corner. Harry climbed onto Ed's shoulders, used his head as a foothold and searched about. If he could get a little higher he thought he could reach a hold that would launch him into a crack in the face above. Ed stretched his hand high above his head, braced himself to be as steady as pos-

sible and shouted to Harry to step up. Harry stepped up into Ed's braced hand. For a moment this Grecian pose was frozen while Harry reached for the crack, gripped and swung his feet free. He climbed the crack which was wide enough for a hand and foot. The rope in Ed's hands crept up and up out of his sight. Time ticked on and the tension became almost unbearable as all climbers have experienced, because one can see nothing and hear nothing. Then a shout and two joyful tugs on the rope signalled relief and readiness for Ed to tackle the difficulty. With his great reach he was able to leave the ledge and with assistance from the tight rope struggle into the crack and climb it. Together again, they found that the steepest of the wall was over. Above, a ridge of ice and snow led up towards the summit. Mick and



in the author

The higher peaks of the central ranges of New Zealand's Alps are surrounded by icefields and glaciers. (Above) The Tasman glacier flows for eighteen miles, drawing ice from Mt Cook and other peaks of the main divide. (Below) Mt Aspiring (9959 feet) has a wide skirt of glaciers slashed with deep crevasses

view by V. C. Broune





New Zealand Aerial Mapping

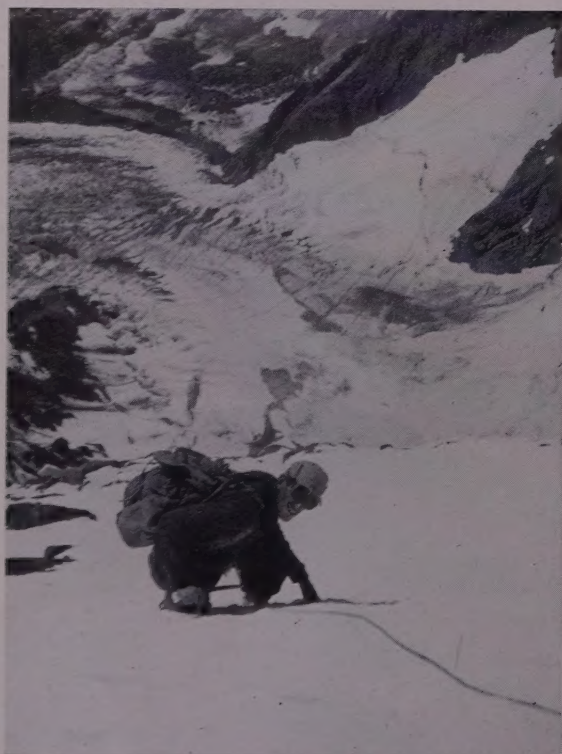
(Above) Mt Cook (12,349 feet) and Mt Tasman (11,475 feet) are low by comparison with Himalayan peaks, but the icefalls and glaciers fed from them are more extensive than any found in the Everest district. (Below) From above Mt Cook: the sweep of the Tasman glacier, now a highway for climbers and skiers

Airview by V. C. B.





Both photographs from the author



(Above) Elie de Beaumont (10,200 feet)—one of New Zealand's seventeen peaks over 10,000 feet—is a very difficult climb from this side. The Southern Alps are still in the happy state where there are unknown valleys to penetrate and new ridges to climb. Before their first Himalayan expedition Hillary and the author with three companions explored and climbed for the first time the Maximilian ridge of Elie de Beaumont. To reach the foot of this climb took many days of exploring three high passes and the carrying of heavy loads. The ascent of the ridge was long and required some steep snow-climbing to avoid difficult rock outcrops. (Left) Hillary ascending a steep snow-face near the summit of Elie de Beaumont with the Whymper glacier showing a great distance below. During this climb Hillary felt unwell but completed it by descending the other side of the mountain to reach a hut where he discovered that he had contracted measles

Ruth below did not attempt the direct route up the corner of the wall. They explored out onto the face a hundred yards or more to the left and found what must have been a better way round the difficulty. When all four were together again they climbed steadily up the ice-slopes, cutting steps in the steepest places. In the early afternoon they reached the summit.

Sitting content after the first ascent of a great ridge, on the summit of a mountain, is a wonderful occasion. And it helps if there is a known and easier route to the valley.

They descended the long west ridge of Mt Cook. It is steep all the way and requires care. In one place they fixed a doubled rope round a projection and slid down. The foot of the west ridge disappears into a glacier down which they descended to the hut.

After a day's rest, with the weather still fine, another climb was suggested: the usual route along the ridge to La Perouse—a much easier but longer climb than the other. The ascent went smoothly until only a short distance from the summit the second pair,

Sir Edmund Hillary's knowledge of the Southern Alps is being put to good use in a training programme for the New Zealand Antarctic party. A mile from the end of the Tasman glacier forty husky dogs are kennelled; after training on it they will go to Antarctica with Hillary later this year

From the author



Ruth and Mick, in rounding an ice-slope, had reason to descend fifteen feet to cross a crevasse. They decided to glissade supported by the rope (to glissade is a climbing term meaning a controlled slide or skid on the feet—like skating without skates). Harry and Ed watched and waited while this manoeuvre was attempted. Ruth went first, while Mick checked her descent with the rope. She swept down beautifully and as she slowed at the bottom Mick put tension on the rope to help her. Without any warning the rope broke, throwing Ruth off balance headlong downwards. She gained momentum, shot over the crevasse and down two hundred feet towards a precipice. The other three watched helplessly. She slid over an ice-wall and fell with a crash on a stump of rock on the very brink. The three men hurried to her and found her unconscious, with a badly broken arm. They strapped the arm as best they could and carried her up the ice-slope to a safe hollow on the crest of the ridge.

Ruth lay unconscious and they could not carry her down without assistance. The nearest help was at the hotel twenty miles away and they were a few hundred feet from the summit of one of New Zealand's highest mountains. The decision was made for Harry Ayres and Mick Sullivan to descend for help while Ed stayed with Ruth. The first two shot off along the ridge, accomplishing a fast journey down to the hut where they parted. While one climbed up again with blankets and food the other ran down the miles of glacier to summon help.

Ed began his vigil by steadily cutting out a great hole in the ice into which he lowered Ruth to protect her from the wind. All three men had given up all their warm clothing in which they wrapped Ruth. The first night was cold and Ed watched and tended his patient and kept himself warm by cutting the ice-hole deeper and deeper. The new day dawned, the weather was sunny and clear with a cold wind across the ridge. Later in the day Ed heard the sound of an aeroplane; he scanned the sky but could see nothing. As he returned to his hole in the ice he heard the aeroplane motor more distinctly and then saw the plane below his level weaving and fighting the down-draughts boring in slowly towards him. The aeroplane—a small Tiger Moth—labouring with the altitude and the load of supplies aboard was seeking out the pair on the ridge. The aircraft turned, made a little more height, and crossed the ridge, dropping rope, stretcher, tent, food and medicine with a note to say that a rescue

party was on its way.

Late that night the first of the seventeen mountaineers arrived after a marathon climb. Harry Ayres was back with the first group, which included Mick Bowie the chief guide who by his presence alone, because of his strength and personality changed what all thought might be disaster into a smoothly executed rescue.

Before leaving for the mountain Mick Bowie had made telephone calls to guides on the west side of the mountain and a bold decision was taken to carry the stretcher over the summit and descend the western slopes into the heavily forested Cook river. This route would be longer, but safer than lowering and carrying the stretcher down the ice-cliffs of the route of ascent. The mountain had not been crossed before by this route but someone in the rescue party had seen the western side. The Cook river rages down through great boulders with tangled bush to the water's edge. While the mountain party climbed up dozens of volunteers from the west side began cutting a track along the bush of the river's edge. High above over the summit of La Perouse the stretcher with seventeen men began the descent of the ice-slopes to the bush near sea level. Four days after the accident the stretcher and rescue party reached the bush—all slept without tents and food was in short supply. They struggled on with the tangled growth, fording difficult tributaries of the main river, finally meeting the track-cutters who gave assistance with the stretcher-carrying. Seven days after the accident they emerged on the single road that links the few settlements of the West Coast. A plane put down at an airstrip and Ruth was flown to hospital where she completely recovered.

Two years later I was with Edmund Hillary in a hut on the slopes of Mt Cook. Outside the wind screamed and heavy snow was mounting around the walls up to the windows. We had played cards, draughts and chess then turned to our favourite topic: mountains and mountaineering. For mountaineers the world over the most fascinating name in the mountain world is: Himalaya. Every mountaineer dreams of being able to climb there—just once. Ed, I found, was thinking as I was thinking: why not try and make the pilgrimage—just once? We decided to join forces and plan for an expedition to leave eighteen months later.

We soon found other climbers with similar dreams. We joined with Earle Riddiford and Edmund Cotter and in 1951 we sailed

The highest peaks in the Southern Alps can be reached by a road which ends at the Hermitage, an hotel in the Tasman National Park. From it Hillary and the author set out for climbs among them where they learned a great deal of the craft of mountaineering. Climbing on these summits calls for all the skill and courage demanded by the highest mountains in the world—it only lacks the effects of shortage of oxygen at high altitudes. (Right) Mt Cook is a great massif supporting an aerial ice-ridge over one-and-a-half miles long: "New Zealand's highest mile". The traverse of this is the ambition of all New Zealand mountaineers. (Below) Mt Sefton (10,359 feet) presents a wall of rock and avalanching icefalls which have only been climbed once. The cloud-shape is a tell-tale sign of high west winds; sweeping over the ridges, these bring sudden violent storms





Above: House Hut is the spring from which climbs of Mt Cook and Mt Tasman can be made, in an average time of about eighteen hours up and down. Below: The ascent of Mt Tasman is difficult by any approach. This view is of the west side where the Fox glacier collects its ice before plunging almost to the sea



The Linda face of Mt Cook, the most-used route to the summit, seen from the slopes of Mt Tasman





Looking down the lower slope of Mt Cook toward the snow-covered tongue of the Tasman glacier, where a melt-lake wandering stream. A strip of road can be seen far below on the mountain side below the glacier. This is one of the few roads that cross into New Zealand's Southern Alps.

for India.

My last climb in New Zealand was made with Edmund Hillary and three companions who went to make up our Himalayan party. We were to attempt the unclimbed Maitomian ridge at Lac de Beaumont. The ridge is long and looked difficult. It leaps up from the west bank and over of the Mackay, and was more difficult to approach. We reached the base of the ridge after seven days by what appeared a very unobvious route. We ascended the eighteen miles of the Tasman Glacier, crossed a pass with views of some striking peaks east, crossed the head of another large glacier and made the first crossing of a pass over the main watershed of the Whangarei glacier. We descended the Whangarei with the Maitomian ridge just above us and crossed the ridge by a difficult pass over which we fixed ropes and retraced our tracks. We reached a new glacier and crossed under an enormous glacier boulder made one attempt which was stopped by a storm and two days after crossing we made the climb up the virgin ridge. Ed was feeling unwell during the climb and on reaching the

summit we descended the other side of the peak to reach a mountain hut. The next day he felt no better and we walked out to the road where we could take a passing bus. Over the last few miles of glacier he came out in spots which turned out to be measles.

We had now climbed for many seasons in the New Zealand Alps and I think could be considered fairly trained mountaineers. The New Zealand mountains were not just in the happy state where there were unknown valleys to penetrate and new mountains to climb. In the highest peaks there were ridges and summits and snow passes well known. To gain something new proved the planning of a small expedition which carried everything to support us for three weeks more. This training made us fully experienced mountaineers before we approached the Himalayas. Climbing in the Himalayas has added one aspect that we could not experience in New Zealand and that was overcoming the effect of high altitude, but in every other respect the mountains of New Zealand require all the skill and knowledge that are called for in the highest heights.



At Rudra-Nilkanth, a Hindu place of pilgrimage not far from Kathmandu, is a statue of Vishnu, the Soul of the Universe, floating asleep on the primordial waters on his snake Ananta. Eternal Time

Nepal, Meeting-place of Religions

by ELLA MAILLART

The author, Genevan by birth, is known mainly through her recent books about Asia where she has always travelled away from the beaten track: her latest book The Land of the Sherpas (Helter and Slaughter) is a finely illustrated essay on Nepal. To that country all refers in her present article, showing how it has mediated religious influences among the surrounding Asian lands.

To a European mind used to rationalistic ways of thinking, where black is meant to be the exact opposite to white, Nepal is full of surprises. Such a mind will take some time to grasp that the religions practised today in that mountain kingdom are seldom differentiated by well-defined signs or customs: black and white are closely linked together and neither of them would have any meaning without the other.

Far from having been strictly isolated from the rest of the world by the Himalayas, Nepal has played the part of a melting-pot, and

there in the Kathmandu valley, at an altitude of 3000 feet, one finds traces of the peoples which have shaped much of Asia during the past. That country, which strikes us as being out of touch and unknown, has been in fact a storehouse at one of the crossroads of Asia, from where an interplay of influences reached India, Tibet, Mongolia or even China—whether through trade, crafts or religious pilgrimages. Not very far from Kathmandu are the passes of Kailash and Kailash, names from Nepal and China have used them, through the gorges below the passes and dangerous



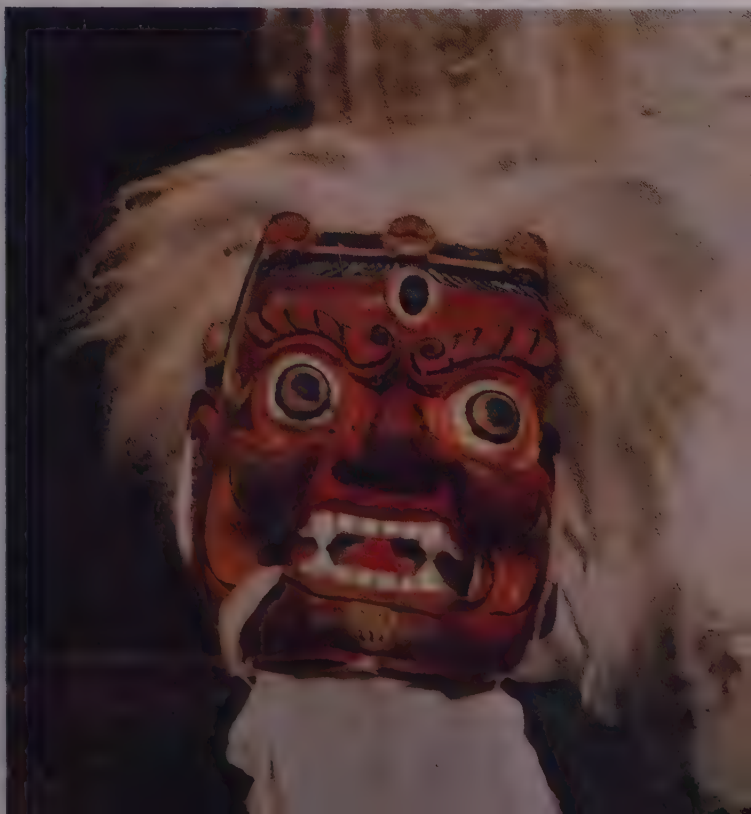
सकार आज



(Opposite) In the Durbar Square of Katmandu, capital of Nepal, stands this statue of Mahakala, an aspect of the beneficent but terrible Shiva as Lord of Time, symbolizing eternity, "the swallower of the ages". One of his six hands holds the trident (which is also an emblem of Indra); and his foot is crushing the demon of ignorance. Round his neck is a garland of smiling heads of the devotees who have gladly attained release from life.

(Above) Preparing for a Tibetan 'devil-dance' at Bodhnath, a Buddhist shrine to the east of Katmandu. The Chini Lama, so called because his grandfather came from China, is in charge of it and leads the orchestra. He wears the traditional yellow satin robes with a brocade mitre. The men in the background, peasants from the mountains, are the performers.

(Right) The carved wooden masks they wear represent powers of evil to be harmonized with the creation





Ein Mann steht neben einer riesigen, zylindrischen Steinstruktur, die mit Devanagari-Schrift beschriftet ist. Die Struktur ist ein Teil eines alten Gebäudes, das in der Nähe des Tempels von Varanasi steht. Die Inschriften auf der Struktur sind in Devanagari-Schrift verfasst und enthalten Informationen über die Geschichte des Gebäudes und die religiösen Praktiken, die dort durchgeführt wurden.

Let us remember that twenty-five centuries ago the last Buddha was born in southern Nepal, which became a holy land, while according to some orientalist it was Nepal that started the style of building many-storied pagodas which influenced Tibet and China. There is also a well-known story that the bodhisattva Manjushri came from China in order to liberate the valley of Kathmandu from the waters of the big lake which filled it.

As an example of those varied influences which enlivened Asia we could take the great Tibetan king who converted his country to Buddhism in the 7th century. He married two charming princesses, both intelligent, one Chinese, the other Nepalese. Each of them introduced the elaborate culture of her Buddhist country to primitive Tibet. The mark they left was so great that little by little they became identified with two benevolent deities of Mahayana Buddhism—the White and the Green Tara.

The Mahayana school of Buddhism is the one followed in Nepal, Tibet, Mongolia, China, Japan and Korea, the other Hinayana school is followed in the most southern countries, Ceylon, Burma, Siam and Indo-China. The schism between the two occurred in the second century A.D. Mahayana Buddhism takes many forms, being distinguished in Tibet and Mongolia as Lamaistic or Tantric, the latter introducing Hindu ideas such as the recognition of male and female deities.

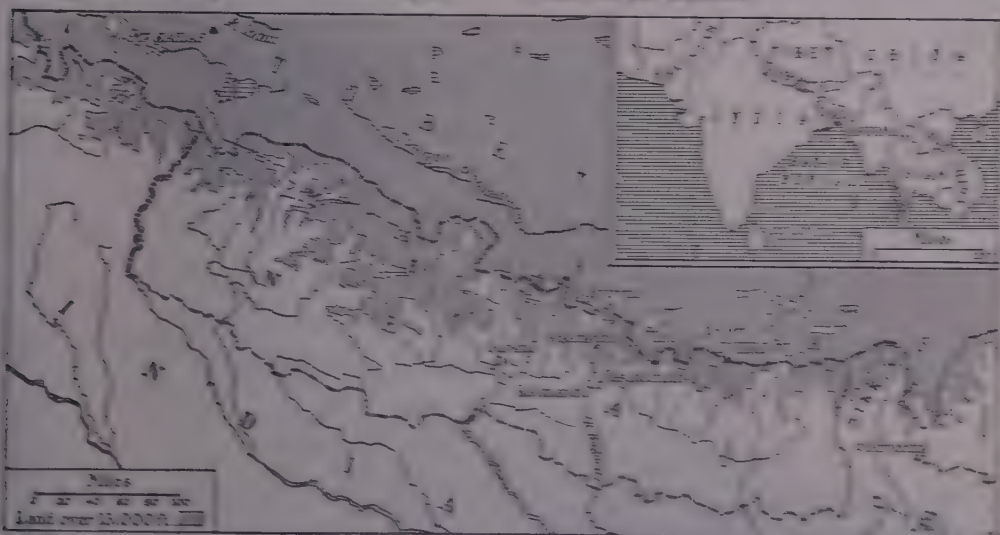
At different times during the last 2,000 years Nepalese kings have come from India, and their gods came too, under different aspects—

mainly those of Shiva and of Devi the Divine Mother; little by little they supplanted the Buddhist religion of old.

The present kings of Nepal belong to the Gurkha dynasty which conquered Kathmandu in 1768. They claim to have escaped long ago from Rajasthan to take refuge in the Gurkha region of Nepal; nevertheless each of the kings followed the Tibetan fashion in having two official queens. At the time of his coronation in May 1956, King Mahendra discarded this custom and declared he would have only one wife.

As this time newspaper articles mentioned that the gods of Nepal are said to be an earthly incarnation of Vishnu. Sometimes both they and all their relatives are credited at Pasupatman, the Brahm of Nepal and its most important shrine of Shiva. Yet here, curiously enough, a great statue of Vishnu stands by the river. Thus we see two of the three great gods of the Hindu Trinity closely associated—Brahma being the third. Brahma, the Creator, is never worshipped except at one small place in India called Pushkar—the greatest because Brahma was and there it is used to pray for a successor the Protector of mankind. Vishnu, has to be propitiated—at this according to some inclination, the Destroyer of our sins and of Shiva the Benefactor. "Hut One who gives release".

In the sacred book of the country, *Nagula Mahatmya*, Narmā the saint declares openly that Shiva, Vishnu and the Buddha are the same godhead, therefore the Lord Shiva manifests himself in order to incarnate Narmā in his wisdom.





Above, Nepalese kings are crowned in Kathmandu in the royal pagoda of Taleju, a Nepalese name for Devi, Hindu's female counterpart. Below, Pashupatinath, an ancient place of pilgrimage, is dedicated to Shiva. The bodies of the Nepalese kings are cremated here, beside the sacred waters of the Bagmati.





(Above) Carved, painted beams support the roofs of pagodas in Durbar Square, Katmandu. To the right is the great statue of Mahakala. (Below) At the New Year celebrations crowds of spectators pull a car sacred to the "small" Matsyendra, protector of Nepal, who is worshipped by Hindus and Buddhists alike





Everyday religion in Nepal. A little girl lifts up her mother to ring the bell and attract the attention of the elephant-headed Ganesha, god of learning and success.

This syncretism, or blending together of different religions, is what surprises us most in the capital of Nepal till we grasp that, in order to survive, the various gods had no choice but to combine. Not only was it easy for the Buddha to become just one more incarnation of Vishnu, but Shiva and Vishnu could also be linked up. In Katmandu one can see, on the avenue bordering the parade-ground, the temple of the so-called "Machendra"—Mahendra—where Buddhists as well as devotees of Shiva recognize their god. There are said to be 2700 shrines in the Kathmandu valley alone; and no visitor can fail to be struck by the evidence which they afford of the way the religions have become mixed together.

Pashupatinath, goal of pilgrimage for more than 2,000 years, is bathed in a potent atmos-

phere: priests wrapped in bright red shawls move among golden-roofed pagodas where the river issues from a dark gorge. Built on the ghats—bathing-steps—I saw the slanting slabs on which a dying prince is placed so that his feet touch the holy and purifying river. Nearby stands the stone cube on which the funeral pyre will consume the earthly garb of the deceased. Half-way up the steep slope across the river a row of small shrines, all of them identical, shelter the lingam of Shiva: they commemorate certain dead princes.

King Tribhuvana, who died in Switzerland early in 1955 aged forty-eight, was cremated at Pasupatinath on March 17 of that year. Jang Bahadur Rana, the maharajah who usurped the royal power for himself and his family, passed away there in 1881: and though he had forbidden the practice of suttee, his three widows climbed onto his pyre according to the old Indian custom—whether they wished to be with him in the other world or whether they hated to live as widows is not known.

I remember an interesting day spent in visiting the shrine of the great Vishnu portrayed in a statue asleep on the snake Ananta at Budha-Nilkanth, ten miles north of Katmandu: "Vishnu, soul of the universe, with thousands of eyes, omniscient, floating on primordial waters, lying on the snake with the thousand hoods".

Seventeen centuries ago this statue of Vishnu was rediscovered and donations to the shrine were inscribed. But let me first of all emphasize a puzzling fact: Nilkanth, "the Blue-throat", is one of the names given to Shiva since he swallowed the poison issued from the churning of the Ocean of Milk; and *budha* means "old". Thus the name of Budha-Nilkanth seems to indicate that long ago Shiva was propitiated on that spot.

Entering the enclosure at Budha-Nilkanth, I saw a walled pond with a "Vishnu-floating-on-the-waters" in the middle of it, asleep on Ananta, the Infinite. Vishnu, the All-pervading One, is here represented in his cosmic sleep which occurs between two appearances of creation. The many hoods of the snake,

In the courtyard of the Changu Narayan Pagoda on a hill-top sacred to Vishnu are several isolated stelae depicting some of his deeds as the hero who appears on earth to destroy evil whenever it endangers mankind. (Right) One of these, "The Three Steps" or Trivikrama, shows Vishnu as the Dwarf Vamana (his fifth avatar). He begged from Bali, a king who terrified the gods after conquering the three worlds, a piece of ground equal to three of his steps. No sooner had the king agreed than the dwarf grew up; one of his steps covered the earth, another the sky, while the third threatened to crush Bali, who, recognizing at last the supremacy of the divine, then placed the foot of Vishnu on his head, full of humility. Bali was appointed king of the under world while Indra ruled the upper, and all was in order



Left Another of the stelae shows Vishnu in the guise of the terrible Narasimha, the man-lion, his fourth avatar. A demon king called Hiranyakashipu, or Golden Garb, was made furious because his son worshipped Vishnu and not himself. Through countless austerities the demon had succeeded in becoming invincible: neither a weapon nor a created being could destroy him. He challenged Vishnu, saying to his son: "If that god of yours were so great, he would be on the spot." Whereupon a pillar of the palace split in two, revealing Narasimha. He was no created being; and with his claws—no weapons!—he disembowelled the demon

sheathed with gold and silver, shade the dark-blue face of the god—blue being the divine colour of the infinite. Using a stone gangway, devotees approach, kneel and worship the sacred feet while offering a few flowers or a handful of petals to the statue, symbol of the Great Being. A merchant from Katmandu had just made an offering to the god and had fed the poor of the neighbourhood; three women were polishing with a mixture of ashes and earth the huge copper cauldrons in which the rice had been boiled.

I noticed the fine face of a Brahmin priest, alone of his kind in that peaceful place. Two long rosaries hung around his neck and I recognized the cowries sacred to Vishnu as well as the *rudraksha* beads of the Lord Shiva. He understood my question and said in Nepali to the officer of a Gurkha Regiment who accompanied me: "One comes to know that all gods are one and the same!"

Watching life in Nepal, where peasants accomplish their devotions while pursuing their daily occupations, one can perhaps understand what Europe was like during the Middle Ages when there were many pilgrimages. At a country crossroads, a peasant

prays before a statue of the Monkey-god Hanuman, the perfect example of humble submission to the Divine. In town, at a corner of the Durbar Square, a stream of passers-by, men as well as women, kneel before Ganesh, the Remover-of-Obstacles, the son of Shiva with the elephant head. As for the eyes of Shiva, they are painted on many a house-door, protecting it.

At the centre of the Durbar Square, the huge and terrible Mahakala is also propitiated. "Shiva is Kala, the Black, or Time, but he is also Mahakala—the Great Time, Eternity." (H. Zimmer.) General Kaiser, brother of Mohun Shamsher the last maharajah, who resigned in 1951, said to me: "As the Great Time who devours everything, it is understandable that Shiva does look awful!" Shiva, as the greatest of all yogis, is the tutelary god of the wandering ascetics on their way to the pure and cool Himalayas where concentration can attain its fulfilment. But first of all Shiva the beneficent and terrible must devour the ego; hence, around his neck, the garland of severed heads which are smiling, his six powerful arms, and his foot crushing the demon of ignorance.

Many statues of the Buddha sanctify the approaches to Svayambhu, a sacred hill near Katmandu. They call the world to witness the virtues by means of which the Buddha attained enlightenment





Svayambhu is the oldest Buddhist sanctuary in Nepal. (Above) The white hemisphere of the stupa is surmounted by a square structure on the sides of which are the eyes of the Primordial Buddha. In the spire above them thirteen golden discs represent the thirteen heavens. (Right) At the four cardinal points of the stupa are niches or chapels, each containing (half hidden by a curtain of gilded bronze) an altar surmounted by a bodhisattva in meditation to whom the pilgrims throw offerings





On one side of the same square, a large wooden trellis partly hides an image of Shiva in another of his terrible aspects, known as Bhairab, with his third eye and big fangs ready to defeat the enemy. People stop before the priest to receive from him with reverence a consecrated flower. I asked my Hindu companion how one could feel real devotion for such a frightening aspect of the deity. Straightway came the answer: "It is too easy to worship a compassionate god who grants us our prayers. But we can learn to love the All-powerful One also when he is hurting us, though we cannot understand him!"

Nearby we passed at the foot of the royal pagoda of Taleju, with gilded doors; the Nepalese kings are crowned in the courtyard leading to it and non-Hindus are not allowed to enter. Taleju is one of the Nepalese names for Devi, the Divine Mother, the all-embracing female energy of Shiva. I learned that she is present in the form of a *yantra*—a geometrical design of nine interlocked triangles, symbols of the interplay of divine forces.

Another day the Durbar Square was packed with people, women on the side-tiers, men in the middle. They were waiting for the New Year procession of the "small" Matsyendra, a god linked with the coming of the rains,

which takes place in the spring. The "great" Matsyendra is worshipped at Patan, one of the former capitals of Nepal.

The story of this god, formerly a Buddhist deity, is a typical example of syncretism, linking Tantric Buddhism with the worship of Shiva, so that devotees of both religions consider "Matsyendra" as their own. One version of it tells that the holy man Goraknath, having been insulted by the town-dwellers, sat for twelve years on the nine snakes, keepers of the rains. Thanks to a dream, the king of that country learned how to save his people from the terrible drought. Going very far away to visit a holy hall, he brought back thence a certain bee which was one form of the god Matsyendra. Confronted by the god, Goraknath had to rise in order to prostrate himself . . . and thus, at last, the rains were freed.

During the procession, a *rat* or sacred *tar*, some sixty feet high, is pulled around the town by a relay of devotees. An embossed copper head of Bhairab tops the pole of the heavy car, whose wheels of massive wood are adorned with the three eyes of Shiva. On the lowest level of the overcrowded *tar* is a small shrine sheltering the hidden god: a shapeless piece of white wood. Priests distribute

(Opposite) Also at Swayambhu is this wonderful example of Nepalese art, a statue of Tara in gilded bronze. (The Nepalese have for centuries been famous for their skill in casting bronze.) Tara is the goddess of mercy, who will be the wife of the coming Buddha. Once she held in her right hand a lotus flower, symbol of divine grace. Now only the stalk remains. (Right) In front of the temple at Patan, where the "great" Matsyendra is worshipped, a group of statues brings Hindu and Buddhist deities together. The figure on the right is Vishnu on Garuda, the eagle which transports him. Those in the centre and on the left are probably bodhisattvas or forms of the Blue and Green Taras, female deities of Tantric Buddhism





(Above) In the Nepalese Himalayas the Tibetan influence can be seen in the chortens or reliquary cairns that are frequently found. (Below) A funeral feast in a mountain-village home: prayers for the dead man are being read aloud. In the background, butter-lamps stand before the house-altar



flowers or sacred turmeric powder. A flame burns in an oil-lamp fastened onto the pole of the car and devotees pass by, touching the purifying flame which was lit at the perpetual temple fire. Such practices have no longer anything to do with Buddhism; they show how customs belonging to the two religions have become mixed together.

It was at Lumbini, near the southern border of Nepal, that the Buddha was born and that is why the country is the goal of so many Buddhist pilgrims. We know that in the 3rd century B.C. the Emperor Asoka ordered *stupas* to be built in Patan to honour the Buddha—hemispherical tumuli, most impressive in their simplicity, which usually contain relics.

Quite near Katmandu, the sacred hill of Svayambhu is one of the great Buddhist pilgrimage-centres. There, at the top of three hundred steps becoming steeper the higher one climbs, I reached the white stupa and came under the spell of two blue eyes painted on the spire surmounting it. Those omniscient eyes are the symbol of Adi-buddha, the Primordial and Causeless One. The spire is composed of thirteen discs, representing the thirteen heavens which have to be transcended by the great soul seeking final liberation.

From the top of the hill I looked over the plain of Katmandu, which in a former age was a big lake. No sooner had the valley been freed by Manjusri the bodhisattva than a miraculous lotus of dazzling light blossomed forth: it was the Adi-buddha manifesting itself—the Self-existing One, Svayambhu.

I watched pilgrims circumambulating the stupa. Carrying a brass plate with flowers and rice-offerings, they paused to pray before the four chapels at the base of the monument while, before the small temple, a few priests sitting on the flagstones performed the fire-sacrifice for their clients.

Adi-buddha is too abstract and remote to



The sacred lake of Gosainkund in the heart of the Himalayas is a goal of pilgrimage for devotees of Shiva, who lies beneath its waters (here still frozen in May). Shiva, after drinking the world's poison, struck the rock with his trident; three springs gushed forth to form the lake and cure his fever

be worshipped. But his five spiritual emanations are the *dhyani-buddhas*. Among these Amitabha the Compassionate is the best known. His active power is Avalokitesvara the bodhisattva. A bodhisattva—which means “being of wisdom”—is subject to reincarnation even though he is ripe for buddhahood, since he has chosen to delay that final step out of the “round of existences” in order to help others until every creature has reached the final release.

Against the wall of the temple I noticed a tall sculpture of the Hindu god Vishnu in a

standing position. But the most conspicuous statue, in gilt bronze, stands in the open before the stupa and represents the smiling Buddhist goddess Tara. She is the beneficent one who helps the devotee "to reach the other shore".

The Buddhist shrine of Bodhnath, built a few miles east of Katmandu in the 5th century, also comprises a huge stupa and a small temple where I saw the Chini Lama officiate. Until quite lately the shrine was maintained by a branch of the Tibetan church in Lhasa. The Chini Lama had two wives and I met them while we drank Tibetan tea in his small flat, full of Tibetan carpets and paintings.

At Bodhnath I entered the temple on the day when a man had ordered the Thousand Offerings for the soul of his son, killed during a minor insurrection. In the dark hall with its fresco paintings I saw the queer display of butter-lamps, lustral water, flour, rice and cakes. A month earlier the mother of the present Dalai Lama had visited Bodhnath and at Patan she presented 5000 rupees to the Mahabodhi Temple. Now that Lhasa is linked to China by two motor-roads and under complete Communist control, who knows whether Bodhnath will not acquire more importance?

It was on one of the platforms of the stupa that peasants in disguise, wearing terrifying masks, performed a mystery-play which we wrongly call "devil-dance". After the display, when a mountaineer bowed before the Chini Lama, the priest would bless him, putting a hand on the bent head. It looked as if that was all the man wanted . . . with a happy heart the pilgrim started back for his distant village near the highest mountains of the world.

Religious life in the high valleys of Nepal is closely related to that of Tibet; and no doubt it would be interesting to study how far northward Indian customs have influenced the brand of Buddhism which is found there. Above 8000 feet the inhabitants of Eastern Nepal belong mostly to the Sherpa tribe, which once upon a time came from Tibet; and the people dress, eat and worship very nearly like the Tibetans.

One knows that one has reached the Buddhist regions as soon as prayer-flags flap in the wind and Tibetan stupas or *chortens* dot the landscape, on top of a hill or a pass, or in the courtyard before a temple. A chorten is a reliquary and a symbol of the five elements composing the universe: earth, water, air, fire, ether—elements which have to be seen as void (a revelation which our scientists are

approaching along their own lines) before final liberation is attained.

Imposing prayer-wheels occupy one corner of these mountain temples, which often have sculptured woodwork and have always been decorated by artists from Tibet. On the main altar, in semi-darkness, sit the sacred triad of Buddhas with their elaborate symbolism. Painted banners hang from the ceiling, as well as the huge drum used during religious ceremonies.

In the highest village of the Malemchi valley I saw the funeral rites performed for one Passang, just a year after his death. During the whole day prayers were read aloud in the living-room of the deceased by some twenty men of the family, led by a monk and the headman of the village. Sometimes they were accompanied by the big temple-drum and oboes. Fragrant juniper burned as incense, while small butter-lamps lit the room, whose paper-windows were closed. On the knees of the men sitting cross-legged rested the leaves of the hand-made prayer-books. One of the formulas read for the benefit of the soul of the departed—but would he be ripe enough to make use of it?—said: "The Lords of Death are your own hallucinations!"

Passang's widow kept on boiling tea for the people present. Meanwhile, in the temple-square, some fifty women of the village were eating the funeral banquet: *tsampa* (parched barley-flour), rice, meat, spinach, with various drinks in wooden bowls, such as millet-beer and tea. At midnight, at the end of a very full day, three of the hermits who had joined the prayer-meeting climbed back to their cells half-an-hour's walk above the village, where brown bears are at home in the mountain-forest.

Even in the remote valleys that I visited, I saw the different religions faring well together: some six days' journey north of Katmandu, at 15,000 feet above sea level, I saw covered with ice in May the lonely lake of Gosainkund, held sacred by the devotees of Shiva: thousands of them go there in August when the ice and snow have completely melted.

Further north still, in fact on Tibetan territory, is the most sacred mountain of the Himalayas; and it is sacred to both religions. Rising splendidly alone not far from where two great rivers—the Indus and the Brahmaputra—start their runs in opposite directions, Mount Kailas is deeply venerated by Buddhists as well as by devotees of Shiva, who call it a self-manifested lingam, symbolizing the power of the supreme godhead.

Waters of the Nile—I

by ANTHONY SMITH

The author's participation in the Oxford University Expedition to Persia in 1950 led to his book Blind White Fish in Persia. Journalism took him to South Africa, whence he returned last spring by motor-bicycle as far as Uganda, following the Nile from there onwards for most of the 3500 miles of its length. The following article covers half that journey; a second, next month, will conclude it. Both deal with the many and much-argued problems of using the Nile's water

THE Nile has just about everything a river could have. For thousands of years it has been the highway for the people of Egypt and the Sudan. It has been their source of wealth and their means of cultivating the land. It has been venerated. It is exceptionally beautiful. And more recently it has been a source of power. But it has always been and is increasingly being a source of trouble, a river of problems making it hard for those countries through which it flows to use it amicably and with fairness to each other.

There are many causes for these problems. The flow is irregular for in some years it has one-third of the flow of other years. The flow is seasonal and varies so that floods are followed by drought. Certain established rights to Nile Water have grown up which now have no relation to population density. Egypt has a right to twelve times as much water as the Sudan and yet has only twice the population. Money is not readily at hand in the countries which should be harnessing the Nile. Places where dams could suitably be erected are sometimes either hot, so that evaporation would be terrific, or thickly populated, so that large numbers of people would have to be evicted as the reservoir began to fill.

In short—and this listing of the Nile's problems could go on for pages—there is no question of solving them for the river as a whole. Everything will have to be done by agreement. Every tiny change will have to be haggled over. Everything will leave somebody unhappy. What sort of proposals there are for the Nile I learnt about when I recently made a trip along the length of it. Usually I was on it. But sometimes I was by the side of it. And sometimes I took a shorter route away from it when the river took some course along which it was impractical to go. All in all I sat with, listened to, watched, wondered at and passed by a large number of people who live because of the Nile.

The source of the Nile is at Jinja on Lake Victoria in Uganda, 3700 feet above sea level. This is one of those half-truths satisfactorily

accepted as true; being untrue in part because the White Nile, which starts there, only produces one-third of the Nile's water. The remaining two-thirds come from the Blue Nile and the Atbara in the centre of the Sudan. However, the White Nile is by far the longest and so has, for those who do not wish to differentiate and for myself who wishes to start this article at Jinja, maintained the title of The Nile.

When Sir Winston Churchill visited Uganda about fifty years ago, he watched the water flowing from Lake Victoria through the turbulence of the Owen Falls and stated that the spot could be an excellent source for power. On April 29, 1954, the Queen opened the £16,000,000 hydro-electric project there and thus turned the 26,000 square miles of Lake Victoria into the largest reservoir of water in the world. Sitting among the crowd watching her at Jinja were Egyptian engineers. This was inevitable. Anything to do with the Nile anywhere is liable to affect Egypt's interests. In fact, the Egyptians even asked for one metre extra height for the dam and paid the cost of the addition. But it is not likely to be used for some years; when it is it will increase the storage capacity of the Lake by 55,000,000 acre-feet, or the equivalent of 120 years' supply of water for the city of London.

The money for the construction of the Owen Falls Dam was lent to the Uganda Electricity Board after the loan had received the authority of the Uganda Government. Since the time of the opening of the dam by the Queen the authorized loan has increased to £26,000,000 as a result of various schemes associated with the Owen Falls. Naturally this electric power will benefit Uganda prodigiously. An English newspaper editor whom I met in Kampala likened the part it will play to that of coal in England during the Industrial Revolution.

Even with the generators that are working today only 1 per cent of Uganda's population are electricity consumers. But, either now or



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The Owen Falls Dam at the outlet to Lake Victoria makes use of the waters of the Victoria Nile to provide hydro-electric power for Uganda. Parts of Kenya will ultimately be served as well

in a year or so, electricity from Owen Falls will be supplying power to sawmills, brick-works, sugar factories, cotton ginneries, aerated water plants, textile and cigarette factories in Uganda, while one-third of the potential output is destined for use by Kenya. A young African journalist said: "Electricity will be the beginning of Uganda." This sort of super-hopeful remark often flows from the lips of enthusiastic Africans. But in the present case he was right.

During its passage through Uganda the Nile is associated with the Great Lakes. Initially it is called the Victoria Nile and flows into Lake Kioga. From there it passes to the northern tip of Lake Albert and then out again from another point of that northern tip to the Sudan. Both these lakes are very large and are used extensively by the East African Railways and Harbours for easy transport of human beings as well as goods. Throughout Uganda (and anyone travelling in that country will keep on coming across it) the Nile does not look anything like one's preconceived notions of what it should look like; these being, of course, all based on the Egyptian Nile, which is a thin ribbon with a green border winding through the desert. In Uganda it does not look greatly dissimilar from

the Zambesi, the Congo, the Niger or the Volta and is, generally speaking, a good deal smaller than any of them. It gurgles along rapidly, the vegetation lining the banks being sometimes thick and lush, sometimes thorny and harsh. Pelicans and flamingoes fly about, elephants flap their ears on the shore. There is a fair amount of steamer transport on the Albert Nile, from Lake Albert northwards to the Sudan border, but in Uganda at present the Nile is not greatly used by the Africans living near it, except for the very few who fish or hunt from it. Before reaching Lake Albert it flows through the Murchison Game Reserve and over the long, sliding chute of the Murchison Falls. Near these falls, especially, are large numbers of hippopotamuses and crocodiles. But elsewhere you do not usually see these animals as, generally speaking, they do not wish to be seen.

The Egyptians, in a recently devised scheme, wish to have dams built at the exits of both Lake Albert and Lake Kioga. Then these lakes would also act as storage reservoirs and even greater control of the Nile's flow could be effected than is possible by the Owen Falls Dam. For the Egyptians, as well as everybody else, realize that if a dam were built primarily for hydro-electric purposes



By courtesy of the Dept of Information, Kampala

(Above) Hippopotamuses in the Murchison Game Reserve, through which the Victoria Nile flows towards Lake Albert. (Below) Rhino Camp on the Albert Nile. Steamers plying the 100-mile stretch from Lake Albert to Nimule are an important link between northern Uganda and the more highly developed south

Anthony Smith



the flow of water could not simply be switched off. When Owen Falls is completed it will be producing 700,000,000 units of electricity every year upon which innumerable clients will be depending. Only to a certain extent will it be possible to act upon the requests of the people further down the Nile.

Going north you leave the screw-ship from Lake Albert at Pakwach and do the last day of your Uganda journey listening to the thumping of your steamer's paddles as you travel to Nimule on the Sudan-Uganda border. At this point the Nile is about half as wide as the Thames at Westminster and shortly thereafter passes over a series of minor cataracts which make it unnavigable for 120 miles. The traveller goes instead by road.

At Juba, the capital of the Sudan's Equatoria Province and the town around which last year's mutiny took place, the steamer service begins again. This is a fortnightly service to Kosti, 900 miles downstream, and must be one of the most fantastic journeys in the world. It takes eight days from Juba to Kosti and about fourteen from Kosti to Juba. One day, I presume, the whole thing will be speeded up but as it is at present the system is the most unmonotonous way of doing nothing that I know. Once again you board a paddle-steamer and for the first five days of its

Elephants wallowing in the waters of the Nile. The 120 miles of the river from Nimule to Juba are impassable to steamers because of cataracts

journey it travels, accompanied by some five or six lighters the same size as itself and attached parasitically to it, through the Sudd. This is a swamp. There are 10,000,000 acres of it and if you climb up the flag-pole on the second day out you can see nothing but that swamp. The same happens on the third and the fourth day. The Sudd is made up of papyrus which grows about fifteen feet high. The river meanders hopelessly through this, for the area is so flat it is surprising that there is any flow at all. The steamer tries to follow the river's course but is always having trouble at the bends and the paddles force a way for the steamer through that papyrus in which it has temporarily stuck.

Half the White Nile's yearly flow, 14 milliard (thousand million) cubic metres out of 27, is lost in its passage through the Sudd. Naturally the Egyptians, who use 48 milliards every year, are aggravated by witnessing the equivalent of four months' annual consumption being wasted. They have suggested cutting a canal, the Jonglei Canal, through 200 miles of the Sudd. The Sudanese look at this proposal with some doubt. "Who is going to pay for the canal?" they say, not having enough money themselves. "We will," the Egyptians reply. "Perhaps," say the Sudanese, "but who is going to get the additional water? Shall we divide it in proportion to population? If so, we ought to get 24 milliards to your 48; and as we only use 4 milliards a year now, we shall some day take the whole of the 14 milliards saved by the canal and still need more to catch up." "What!" say the Egyptians, "are we to pay for the canal and you get the whole benefit? And is the use of the water to be delayed until your consumption reaches the same level as ours?" But the Sudanese know very well that as soon as large numbers of people in Egypt became dependent on the extra supply of water, none of it could be relinquished again for the Sudan. In fact, the Jonglei Canal project is so beset with complexities that the steamer will undoubtedly be boring its delightful way among the papyrus and the occasional crocodile for a good many years to come.

The people who live in the Sudd are primitive; and there are few of them. They are indigenous Africans and are quite different from the northern Sudanese who have more Arab than African blood in them. This is another obstacle in the way of developing the south of the Sudan. In all African countries it is considered shameful by many of the local people to want to go to the 'bush' inhabited by their more primitive fellow-countrymen;





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(Above) North of Juba the White Nile enters the Sudd, a swampy marsh that stretches beyond the horizon on every side. For 300 miles the paddle-steammers with their attendant lighters struggle to force a passage through the maze of channels and thick vegetation. A canal from Jonglei to the point where the Sobat joins the Nile has been proposed by Egypt to mitigate the enormous loss of water by evaporation that occurs in this section of the river, but like many aspects of the Nile question there are doubts and difficulties which make it unlikely that the canal will be built—at least for a good many years to come. (Right) Fifteen-foot-high spears of papyrus and aquatic grasses form the vegetation of the Sudd. The inhabitants of this inhospitable region are mainly Nuers. They are cattle-herders, hunters and fishermen; for both the last-named occupations they use spears from long narrow dugouts



By courtesy of the Sudan Government Agency in London

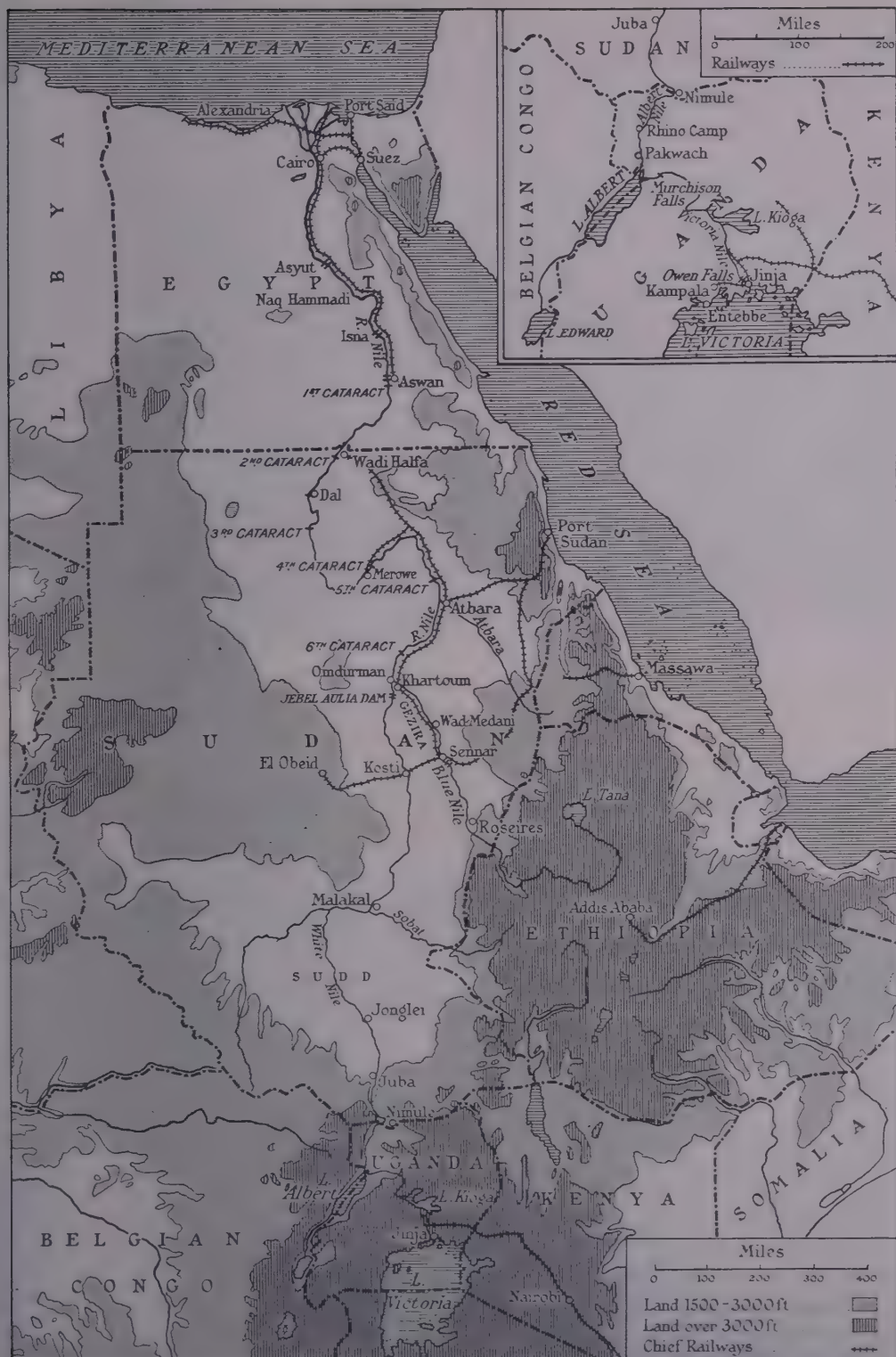


Anthony Smith

(Above) *The White Nile at Malakal, a broad, big river at last, is navigable by steamer for another 300 miles to Kosti. (Below) Dinka fishermen. The Dinkas and Shilluks who live along this stretch of the river are, like the Nuers, proud and aloof and have little liking for Western ways or clothes*

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(Above) Lake Tana in Ethiopia, 6000 feet above sea level and 1400 square miles in extent, is the source of the Blue Nile, which makes a 1000-mile-long semicircular sweep south-east and north-west to Khartoum.

(Below) The Sennar Dam which holds back its flood-waters to irrigate the rich cotton lands of the Gezira

Agency, of the Sudan Government Agency in London





By courtesy of the Sudan Government Agency in London

*(Above) Tenants' sons picking cotton on a training farm associated with the Gezira cotton scheme.
(Below) Khartoum, 1300 feet above sea level, is situated at the point where the Blue and White Niles meet. From the confluence the river still has some 1800 miles to go before it reaches Cairo and the sea*

By courtesy of the Sudan Government Agency in London



and so it is here. But there is also a special reason. On my steamer—the third to go North after the mutiny of August 1955 when about 400 Northerners were speared or shot by the Southerners in a couple of days—there were doctors, teachers and army men all rebelling against the idea of ever going South again. As one doctor said to me: “It is all very well for you British townfolk, who can’t find decently paid employment for your technical skill at home, to want to ‘get away from it all’ to a place like the Sudd; but we can earn as good money among our own people, where we are badly needed, without coming here to be murdered.” It will not be easy persuading the educated men from Khartoum to go South.

Once out of the Sudd the steamer makes good progress up to Malakal and Kosti. The river is broad—about twice as wide as the Westminster Thames—and there are small banks to it. The countryside is scrubby and there are, initially at least, giraffes. Malakal is really the dividing line between North and South Sudan and is quite a busy steamer-port, for the Nile has become not only the main communicating highway from South to North but a practicable highway as well.

At Kosti, which came into the news over the recent “black hole” incident, there is the railway line and it is the terminus for the Juba steamers. Here the White Nile has come very near to its junction with the Blue Nile, the branch from Ethiopia. As the Blue Nile produces more water than either the White Nile or the Sobat (which flows into the White Nile) or the Atbara, it is obviously of great importance, especially as its flow is very irregular: at the seasons of the year after the rains it has thirty times the flow it has during the seasons when it is not in spate. Between Kosti and Khartoum, about 100 miles further north, there is the Jebel Aulia Dam, built in 1937 by British firms for the Egyptian Government to hold back the steady flow of the White Nile for summer irrigation in Egypt when the more impulsive Blue Nile is in flood. This dam is the chief reason why the steamer service ends at Kosti.

Kosti is also a centre for cotton and most of those in the “black hole” were cotton-farmers. This cotton-growing indicates a further change in the vegetation resulting from a more even and arid climate; and with the change the Nile has at last taken on its familiar character. Its waters are henceforth not a convenience but a necessity to those who live on its banks; it has become a life-line, an artery, a vital heritage and all the other things which are so often used to describe it.

The traveller leaves Kosti by a train which goes straightway to the Blue Nile Valley, to Wad Medani and to the region of the famous Gezira cotton scheme, which became effective from about 1926. It was based on pilot schemes operated by the Sudan Plantations Syndicate, a British company. Until 1950 the scheme was run jointly by an organization representing this and the Kassala Cotton Company, the Sudan Government and the tenants of the land laid out for irrigation (mainly the original owners who were granted tenancies in approximate proportions to their holdings). In June 1950 the two companies relinquished their concessions.

The dam which enabled this scheme to work is the Sennar Dam and was, like it, a British venture. It must be one of the most useful pieces of construction ever devised, for thousands of acres have produced crops year after year from the water which it has held back for irrigation. It was started in 1914 and finished in 1925. It is an excellent example of how the Nile can be utilized to the best effect. But it has its limitations. It cannot hold back by any means all of the Blue Nile flood. So the Egyptians, and others, have proposed that dams should be built upstream of it at Roseires and at Lake Tana in Ethiopia.

These projects are the occasion for another argument; this time a three-cornered one. A dam to increase the storage capacity of Lake Tana would have several advantages: since its area is large quite a low dam would produce a considerable increase in capacity; since it lies at 6000 feet in the mountains, evaporation from its surface would be less than at lower altitudes. But Ethiopia stands in a somewhat similar relationship in this respect to the Sudan as the latter stands to Egypt: being less developed it fears the possible economic control of another country. The Sudan, for its part, will argue about the Roseires scheme in much the same way as about the proposed Jonglei Canal.

At Khartoum, and near the site of the battle of Omdurman, the White Nile meets the Blue Nile. These names are hardly apt. One is light brown, the other is dark brown. But perhaps this is a moot and subjective point for only a few have ever been privileged to see the Danube as blue. Khartoum is the capital of the Sudan. The Nile flows through it and separates the old town of the Mahdi from the new town of Kitchener laid out in the design of a Union Jack. But it is still a long way from the sea and the water from Lake Victoria has only done about half its journey.

Two Englands Apart

I. "Teas in the Grecian Hall"

by KAY CICELLIS



Philip Boucas

(Above) Parties of visitors picnicking on the lawn before Vanbrugh's vast north front of Castle Howard. Like almost every other great house in England, Castle Howard is now open to the public

The author of this article is a Greek. Accompanied by another Greek, Mr Boucas, who took most of the photographs illustrating it, she set out to observe the effect of recent social changes on two kinds of English people: the owners of "stately homes" and workers in industry. Her chosen examples of each—near neighbours in Yorkshire—throw light upon aspects of our national character that easily escape our own notice. Her second article, on Leeds, will be published in November

TRAVELLING in trains across England, I have often leaned over to my neighbour and asked: "Show me an English country-house." There are no country-houses in Greece; there are villas—of varying sizes. The oldest ones are converted pigeon-houses or Turkish strongholds. As for castles, the Venetian fortresses left over from the Frankish occupation are all in ruins; except for one, which has become a hotel. So, naturally, I was curious. But I was always disappointed: from the window of the train I saw farms, factory-chimneys, church spires, but never the tall towers I expected. The country-houses were out of reach, it seemed, remote and protected; they never offered themselves to the screaming, many-eyed trains that cross the English countryside.

So I came to think of country-houses as distant, inaccessible domains, just as unreal as the ones tucked away in the novels of Jane Austen and Ivy Compton-Burnett. Then one day I was told: "They are not inaccessible. The greater and more famous they are, the

more accessible, about as accessible as the British Museum (except that it takes longer to get there); for many of them belong to the National Trust and those that do not belong to the National Trust are open to the public on certain days of the week and on holidays. Didn't you know? There has been a great social change in England; English country-houses are no longer what they used to be."

Half-convinced, I left the great common train-ways and branched off through a country road to visit my first English country-house: Castle Howard, an 18th-century house built by Vanbrugh in the North Riding of Yorkshire. My first glimpse of it was when we entered the long drive lined with beeches and lime-trees. In the distance it looked beautiful—formidable and formal. I noticed a subtle change in the surrounding landscape: the trees and the soil were the same as before, yet this was no longer just Nature. The lake in the foreground, the sloping green lawns, the house, the trees grew out of each other in extraordinary symmetry; they made

a pattern, graceful and harmonious in a way which the English countryside, even though it is orderly, could never equal. Instead of orderliness, here was order, of the purest kind. I think that this touch of a man's hand and mind—Vanbrugh's—extending its influence so far beyond a mere house, dominating all this space so effortlessly, made the place even more unreal than it already appeared in the grey-and-yellow distance. Carved so forcefully out of the common soil, this exception, this man-made domain, became strangely impersonal.

I came upon the first visitors to the castle. They had camped along the drive, in the shadows of their cars, on the very edge of the road. I wondered if it was laziness that kept them there, or if it was enough for them to have this distant, tapestry-like view of the castle, perfection without knowledge. Further on, there was an old woman in a shawl standing at a loss in front of a car; she seemed to be waiting for her family to come back; she looked utterly unconnected both with the castle and with the new, glistening car. A few yards ahead, a young man slept, indifferent, on a huge, brightly chequered cushion. A woman knelt on a blanket combing the hair of her husband, who was eating a piece of pork pie. As we advanced through the long drive, we came across more and more groups sitting on the grass. They did not surprise or shock by their presence here. On the contrary, they seemed natural; they emphasized the impersonality of the place; they turned it into the impersonality of a great public park. It was as it should be.

Past the tall Obelisk, I saw a number of tents, an open-air fire with a kettle over it, a swing hanging from a branch, girls in blue blazers moving among the trees: a girl-guide camp. There was a place here for them as well; these formal grounds were truly open, wide open; a park, nobler than most, but a park. This impression grew on me so rapidly, that by the time I reached the house I had completely forgotten this was also a private residence. It was only gradually, through the hum, the ebb and flow of the crowd, that there appeared the scattered, secret signs which showed that a family lived here.

I remember seeing, on the left of the house, a small black-and-white pony grazing under the trees. I immediately supposed it was there for the visitors' children to ride on, like the donkeys at a fair. I was mistaken. "No," I was told, "this pony belongs to the family; the Howard children ride it in the mornings." Then I noticed the pony was behind a fence,

all on its own, in a kind of sunny isolation. This pony was certainly not in a park. Suddenly it was as if I was standing on a street pavement staring into the window of a strange house. But it was only the first sign, and it left only a passing impression. I soon forgot it. Once more I was caught up in the crowd.

More and more people were coming out of the cars and charabancs. A young couple, saddled with monstrous rucksacks, got off a tandem bicycle; both had very thick legs, the woman's thicker than the man's. Two young men climbed off a motor-cycle and began shedding huge rainproof uniforms like the ones worn by an Everest party. Then, straightening their jackets, they moved determinedly towards the house. I had never seen so many hats or so many children. Voices merged into a mumble, voices called: "Oh, listen to the cuckoo!"—"Shall we go in now?"—"Where is the lavatory, please?"—"Seven tickets, please; four adults and three children, no, three adults and four children . . ." This came from a harassed family-man. "Don't be silly, Harry, five children," his wife corrected him.

Suddenly there was a different voice: "Darling, do you know if the fountain has been turned on? They are going into the grounds." I realized then that the owners of the house were standing among the crowd; almost indistinguishable at first glance, except that they were not carrying anything: no baskets, no bags, no coat, no child's doll, no camera. Major George Howard was wearing a pink carnation on his lapel, and motioned the people towards the low door where tickets are bought. His wife, Lady Cecilia, dashed off to the East Wing, where they live, to get a duster; even though she no longer lives in the part of the house open to the public, she is intimately familiar with it, she knows at once if something is not looking as it should. Both are constantly on the move; they never rest for a moment. I don't believe many of the visitors know these are the owners of the house. They are not stared at. They are spoken to in a completely impersonal manner. They are simply there to answer questions. As for the Howards their voices never change when addressing the visitors, they remain uniformly polite.

Between the Howards and the visitors, there is a small intermediate group: the guides who take the people round the house. There are ten on duty today. They differ from the rest because for them neither the visitors nor the Howards are an abstract



Aero

John Vanbrugh, who later designed Blenheim, was only thirty-five when in 1699 Charles Howard, third Earl of Carlisle, asked him to build Castle Howard—his first commission of note. It took more than twelve years and cost £75,000 to construct the main edifice. Howards have lived there ever since



All remaining photographs by Philip Bou

The cars stand empty in the sun, parked in neat lines on the grass, while the crowd goes round the great cool castle. But some people are too lazy to move. The cars are mostly small and the families large; it's been a cramped journey and sometimes a long one, from Leeds or even further afield

People wander about, pause, stare up at the walls, curious and vague at the same time. But Major George and Lady Cecilia Howard are always there to show the way, answer questions. Most of the people do not know that these are the owners of the castle. In the background are the private apartments





In the vaulted halls, in the gleaming Long Gallery, one hears above all the clear voice of the guide. But the crowd is by no means silent. There's the first sharp gasp when the visitors come to the main staircase; then the gasp softens, breaks into a sigh, into whispered "ohs" and "ahs"—is it the size of the place, or its beauty, or the coolness, or just sore feet? Most of the many questions they ask are of a practical nature; one man even wanted to know how the hinges of a certain door worked. On a bank holiday there are ten or more guides; each may take up to six parties round that day. Last Whitsun, the visitors to Castle Howard numbered almost 2450



The Great Hall—the heart of the castle—is seventy feet high. “Difficult to keep warm,” whispers an old lady in awe. Although not smaller than the statues, the people look dwarfish in this great room emptiness. “I prefer the music-room; it’s cosier,” says the old lady





And now to the Grecian Hall for tea. In spite of the Ionic pillars, this room is less forbidding; here is the familiar queue, the familiar egg-and-tomato sandwich, the ice-cream. The tired visitors rest their feet and their eyes. But not for long—the charabancs are waiting



It is seven o'clock ; the last car, the last charabanc, has left. The signs have been taken down, the postcards packed away. Now the Howards, still not too tired after a harassing day, take a walk with Titi on the lawn. In the quiet, spacious evening, the crowds seem to have left no trace of their passage

"they". They can distinguish persons; they have a share in both worlds. "There was a man in my party who's come here for the third time . . ." says one of the guides. "The *Finding of Moses* was showing up beautifully today," says another to Lady Cecilia in a confidential tone; she too, like the mistress of the house, is familiar—and concerned—with the fine paintings in the state rooms.

All of a sudden I lose sight of the Howards; the invisible boundaries disappear—it's as if I had dreamed them. I am alone with the crowd. A new wave of visitors has arrived. Before I am swept into the house with them, I just catch a glimpse of a nanny pushing a pram towards the trees away from the house. It is the youngest son of the Howards who is being taken for his walk. Meanwhile, in the reverse direction, the arriving visitors push their children towards the house instead of away from it, for this is where they have been brought for *their* walk. I let myself go with the wave, and we enter the house. Everything is beautifully organized; the guide asks us to wait a few minutes, until the first party has advanced far enough to be out of earshot. The great stretches of marble floor, the polished boards, are already half-dimmed by the first wave of shuffling feet. After our party has passed as well, the marks will be even more visible, a covering carpet of dust. But that will be all—the only mark of our passage: We go through the great rooms quickly, without touching anything.

The visitors follow the guide obediently; their heads go up, turn right, left with the movement of her long stick. A baby begins crying and is hushed. A young girl giggles. There are some whispers. We are going through a long chilly gallery lined with Roman busts and statues. A father, holding his three-year-old son in his arms, pauses in front of a seated, life-size statue of Ceres. "Look! Look!", he says pointing at the statue, "is that your Mummy?" The child howls. At the mention of the bed in which Queen Victoria slept, there is a slight awakening of interest. It is a great four-poster with heavy draperies hanging over it. "A bed, a bed!" cries a little girl beating her hands. "Yes, a bed," says her mother doubtfully. A young girl in a white fluffy jacket whispers: "God, how could they sleep with all that stuff hanging over them . . ."

Among the crowd there is a girl who used to live here during the war, when a girls' school was evacuated from Scarborough and moved to Castle Howard. Girls from this school often come back to Castle Howard on

public days as a kind of pilgrimage, or perhaps in order to show off: "Miss, Miss, may I show my friend where my dormitory was?" they say to the guide.

We pass into the music-room. There are rows upon rows of old, gilt-edged books, mostly in Latin and French. "There's books for you, mother," laughs a ginger-haired young man, "no need to go to Boots' here." The mother shrugs, she is not amused: "You can say what you like, it's all very pretty, but I still wouldn't like to live here." Their eyes, untroubled by all these splendours, skid idly over the shining surfaces of wood, marble and metal. "Look at the exquisite carved cornices!" says the guide. "Look at those gorgeous anemones in the vase!" echoes a woman to her friend; and in a low voice they continue a private conversation about gardening. The guide points at the portrait of a woman: "That is Frances Stuart. Duchess of Richmond, who posed for Britannia—the Britannia you find on our pennies." They like that; they like this kind of precise information, this link. A man takes out a penny from his pocket to make sure.

The party ends up in the chapel. The visitors sit down in the pews, rest, relax—for a church is always recognizable, familiar, no matter its size, period or style. There are questions: is the chapel still in use? Yes, from time to time, but there is no resident chaplain at Castle Howard now.

But already most of the visitors' attention is wandering towards the grounds, the fountain, the Grecian Hall, where a catering firm from nearby Malton is now serving tea. "Shall we buy some postcards?"—"I'd rather buy some of the anemones we saw coming in . . ."

As we make place for the next party, I realize that the invisible boundaries I mentioned before are still here—more than ever here; only they have not been imposed; they have been fashioned, quite simply, out of the little empty space, the gap made by these people as they step aside from the great golden rooms and withdraw of their own accord to the tea-room, with something like a sigh of relief.

The afternoon is getting on. There is a general relaxation, a spreading idleness. The Howards and their visitors drift and fall wider apart. A group of visitors are having ice-cream with the driver of their charabanc; they have turned on the wireless, it echoes strangely in the afternoon quiet. George Howard has moved away from the door; he is busy untangling a toy parachute for his

two sons. The house closes at 5.15 p.m., but the visitors are allowed to stay on in the grounds till sunset. Now they can be left to themselves; now the Howards too can relax. Imperceptibly the crowd gives way, retreats into the background, and it is the Howards who occupy the scene. The nanny with the pram returns from the wood; it is time for the baby to be put to bed. The two older boys burst into the waiting-room and rope themselves with the twisted cords, which the guides had worn, play wild fencing-games with the guides' long sticks.

The Howard family gather round one of the white benches on the lawn. They have one or two friends staying with them overnight. "But we don't have large house-parties nowadays," says Lady Cecilia. "The house is open to the public at week-ends, and that is the only time most of our friends can get away." Besides, there are not enough bedrooms, now that they are confined to the East Wing. On rare occasions, they use the state rooms for their guests.

Why do the Howards submit to these impositions? I suppose nearly all readers who live in England know the answer; but for the sake of those who do not, I may sum it up by giving a few figures. First, the maximum rate of income tax, to which the owners of such large houses are usually liable, expressed as a percentage of income: 1914, 8.3 per cent; 1939, 75 per cent; 1955, 92.5 per cent. Next, that of death duties: 1914, 15 per cent; 1939, 50 per cent; 1955, 80 per cent. Thirdly, inflation, reckoned in terms of the cost-of-living index: 1914, 100; 1939, 158; 1955, 395.

Rents of landed property have not risen in anything like the same proportion; while even if they had, they would not counteract the effect of income tax and death duties at such high rates. Till quite recently, only one course was open to owners of historic houses who can no longer maintain them out of income but wish to hand on intact to posterity what they have inherited: to give them to the National Trust, though they had to provide endowments for them as well. Since the Historic Buildings Act of 1953 the position has been somewhat better; its provisions were summarized by Lord Methuen in an article in *The Geographical Magazine* for January 1954. Grants in aid of upkeep have been given by the Historic Buildings Council, set up under that Act, to the owners of a great number of houses for various purposes. These grants, however, do not usually cover more than about half the cost of doing any particular

piece of work and the rest of the money has to be found from the owner's pocket or elsewhere. Castle Howard, for example, has had a grant towards the cost of the extensive repairs needed at Vanbrugh's Temple of the Four Winds, in the park, and the work has now nearly been completed.

Such grants can evidently solve but a limited part of the owner's problem and receipts derived from opening his house to the public contribute greatly to its solution; especially when, as is the case if the house is open on a sufficient number of days in the year, the Commissioners of Inland Revenue are willing to treat the showing of the house as a business and to allow the expenses of showing the house and of keeping it in a showable condition to be set against receipts. The Castle Howard estate, in point of fact, like a good many others, has been turned into a Private Limited Company and both receipts and expenses connected with the showing of the house appear in the Company's accounts. The charge is 2s. 6d. for entry to the house and 1s. 6d. for entry to the gardens only. Visitors during the three days of the last Whitsun holiday numbered 2450, so their contribution was a substantial one.

"Now that things have quietened down a bit, I can show you the farm if you like," says Major Howard. The farm's receipts and outgoings also come into the Company's accounts. Major Howard farms 1000 acres on his own; the rest is farmed by tenants. He has planted the field by the lake with potatoes; he owns a large flock of sheep; but the most important part of the farm is his herd of British Friesian cows. They are called the Henderskelfe herd, after the name of the old castle which stood on this site before Vanbrugh built Castle Howard, and they are one of the best herds in Northern England. One of the dairy boys shows us a large trunk filled with green, blue and red badges—all prizes won by the herd at various shows. There is one prize cow that yields ten gallons of milk a day. The installations are ultra-modern; they were built in 1954. The tiles gleam brightly under a sheet of water from freshly-spilt buckets. There are weighing-machines, disinfecting-machines, machines of every variety. On the walls there are tidy charts, where the exotic names of the cows, Dubarry, Welcome, Torch, mingle with the austere precision of numbers. Major Howard drives down to his farm (five minutes in the car) almost every day, and takes a lively interest in it. Between the farm and the immense

task of restoring the castle, the Howards are kept very busy.

"We have done all the decoration of the state rooms ourselves," says Lady Cecilia. "We arrange them quite freely—we try to avoid giving the rooms a museum look, and aim rather at recapturing the feel the room had in the old days. We often add a piece of furniture here or there if it fits in with the room, so as to make a harmonious whole. And we change the arrangement of a room if we get a better idea." She sighed. "There's still so much to be done. The moment one job is finished, something else crops up calling for attention." Their great ambition, of course, is to restore the south front, which was damaged in a fire during the war, when the castle was used as a school. But that will take considerable time and money. Apart from the main task of restoring and renovation, there are also innumerable details to be looked after: cleaning, repairing, cataloguing, completing the guides' leaflets with always more and more information, as new and unforeseen questions are asked by the visitors, making arrangements with the catering firm, keeping a fresh supply of postcards, guide-books, flowers. Then there is the keeping of accounts, which is in itself no small job. "There's no end to it," says Lady Cecilia. "It is a full-time job, I assure you." But she seems to be enjoying it. Naturally by opening the house to the public they are tied down to Castle Howard in a way that their ancestors never were. They have to plan their holidays and travels very carefully so as not to coincide with the holidays that bring in the big crowds. They usually go away before April or after September, when the house is closed to the public for the winter. Week-ends nearly always find them at the castle. They don't go to London very frequently. In brief, Castle Howard is where they most like to be; it is their world.

Apart from the farm and the restoration work, there is also the task of keeping house, and although the Howards live much more simply than the Howards of the past, this still implies a great deal of organizing. They only occupy the East Wing, whereas in the past the whole house was in use. They have only a fraction of the number of servants employed in the old days. But even so, the East Wing corresponds to what one would call in London a very large house, and their style of living is still far more than just 'comfortable'.

I went back to Castle Howard next morn-

ing. This was not a public day. The weather was radiant. The lake, the vast green stretches, glimmered peacefully, unsullied by any human presence. The scene was almost unrecognizable. Yet there was no sense of loneliness in this vastness, this emptiness, now that the people were gone. Castle Howard, a world in itself, had closed back like a shell, and looked as it had always been meant to look. The black-and-white pony was taken out of the fenced meadow, and the Howards' eldest son was riding it, accompanied by one of the farm-workers, along the stretch of lawn where the charabancs had parked the day before. The boy and horse made one long, fine, clear shadow as they moved, a single dark needle on the dazzling green. Over by the south front, one could hear the whirr of lawn-mowers. The gardener was emptying the baskets filled with rubbish. "I must admit, though," says Lady Cecilia, "that they are extraordinarily clean; they never leave anything lying about." I thought this was the one sign, possibly, that for the visitors this was not after all just a park; the one sign betraying, perhaps, a kind of respect beneath the layer of indifference which had struck me the day before.

In the state rooms there was the sound of an electric sweeper, rubbing away the innumerable dusty footprints of yesterday's crowd. It was all becoming private once more. The performance was over. A girl was changing the water in the bowls and filling them with fresh flowers from the garden. A man from the village was putting up some scaffolding to repair a wall that was showing signs of collapsing. Another man arrived to start repainting the Temple of the Winds, which is five minutes' walk from the house. Lady Cecilia was looking at the accounts, and George Howard set out for the farm.

I walk out into the garden, past the immaculate alleys, past the fountain. Quite by accident, I come upon a clearing in the wood, where the forget-me-nots grow so wildly, the birds sing so loud, the stone statue stands so perfectly at rest in the sun, that I feel I am eavesdropping. Time seems to have stopped. But I know it isn't quite so. Time has not stopped, and the two owners of this strange domain, half-private, half-public, have not tried to stop it. They have followed it, but by no means servilely. They have made changes, readjustments, even compromises, but have managed to retain intact the core of their world. They have rendered unto change what was due to change, but only that, not one penny more.

Pulp from New Zealand Forests

by R. F. CRONE



11 photographs by R. F. Crone from Graphic Photo Agency

The Kaingaroa State Forest, near Rotorua in North Island, New Zealand, is fifty miles long and up to twenty miles wide. Large-scale planting began here in 1925 on hitherto unproductive pumice country



K. C. Jordan

With the setting up of the New Zealand Forest Service in 1920 the first step was taken to undo the damage which a century's indiscriminate burning and clearing for pasture-land had inflicted on New Zealand's forests. Now, after more than thirty years, the fruits of a systematic and long-term policy of soil-conservation and reforestation are appearing. In 1955 the recorded acreage of exotic forests in New Zealand was 820,000, distributed over Auckland, Rotorua, Wellington, Nelson, Westland, Canterbury and the Southland areas. In the near future the yield of newsprint will make New Zealand self-supporting, while the annual output of newsprint, sawn timber and pulp is estimated at £7,000,000. The value of reforestation, however, is not to be reckoned only in terms of the economic advantages it will bring but also in terms of the new relationship that has been established between the inhabitants of New Zealand and their land. For it was the belief of the men who initiated the reforestation policy, the "men of the trees" as they were

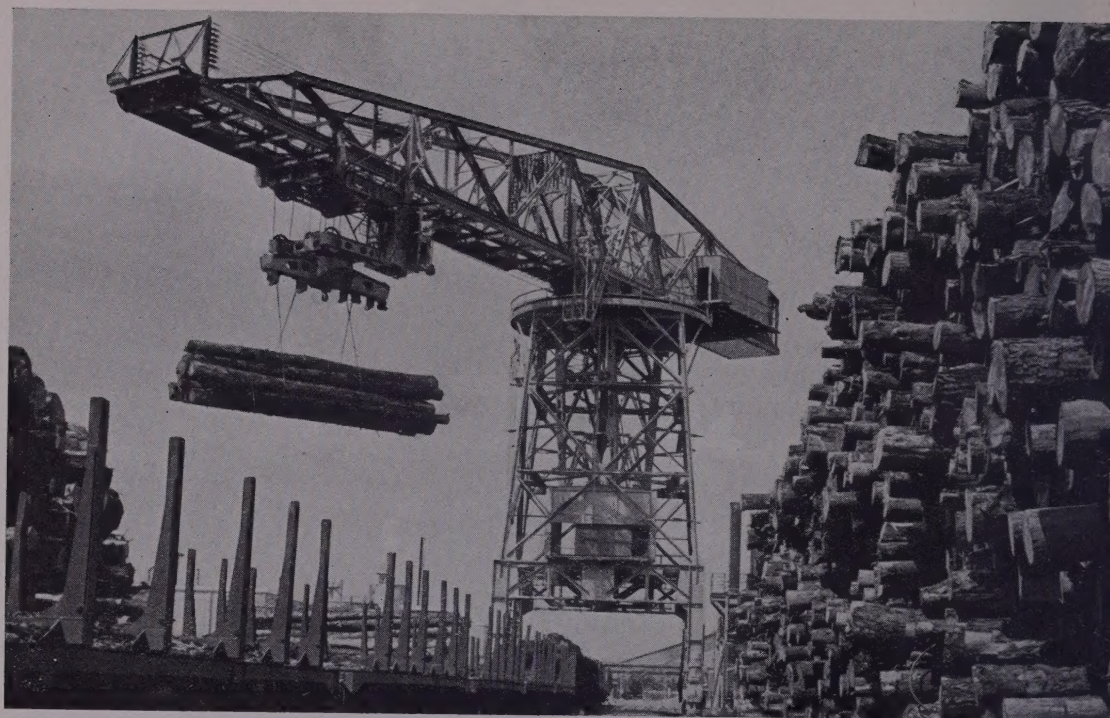


Where previously the pumice supported only scrub and tussock-grass are splendid stands of Radiata pine, now after thirty years grown to maturity. The forest also has stands of Douglas fir, Ponderosa pine, Corsican pine and other varieties. Radiata pine is quick-growing and produces high-quality newsprint

Kaingaroo Forest is state-owned and managed, but a private concern, the Kaingaroo Logging Company Ltd, has been established to buy, fell and load logs onto the railway; from that point the state again takes over, for the newly constructed Murupara Railway which takes them to the mill is part of New Zealand Railways' state-owned network. (Below) Men of the logging company use every modern aid in preparing the trees for transportation to the mill. (Opposite, top) Hauling and lifting logs after felling: a pneumatic crane (called "air tongs") takes a log in its jaws, which are operated by compressed air. (Opposite, bottom) A diesel locomotive hauling a load to the mill at Kawerau. Spectacular fillings and cuttings through the pumice were made when the railway was built. The first train was run in 1955

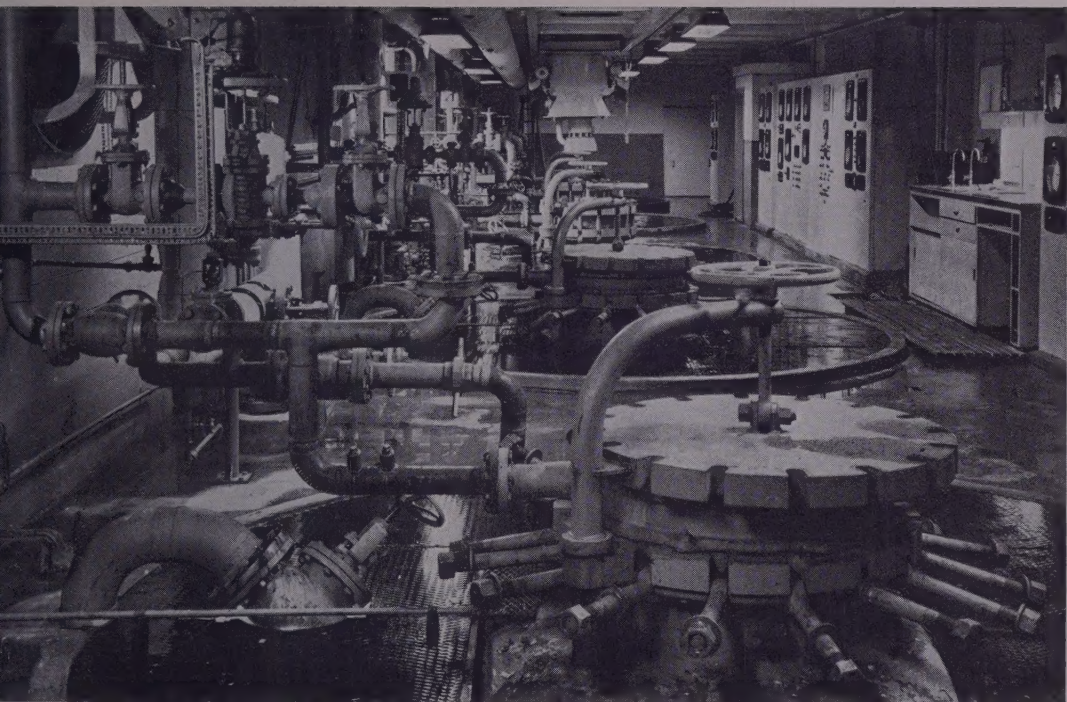






(Above) Each truck-load of logs is contained by a wire sling which stays round the logs from first loading until they are sorted at (below) the Tasman Pulp and Paper Company's mill at Kawerau. Like the logging company, this is privately owned; it produces newsprint, kraft pulp and sawn timber





(Above) The digester house of the Kawerau mill, showing the complexity of the chemical pulp-making plant. Paper is made from chemically pulped or mechanically ground wood chips (kraft pulp combines these two methods). (Below) Large rolls of paper which will be rewound and cut to specified widths





It is intended to make use of the power provided by geothermal steam for operating the Kawerau mill. Exploratory borings half a mile from the mill have already revealed the presence of this natural source of power which will eventually replace the coal and hydro-electric power now used

called, that happiness is dependent on the proper relationship between man and Nature.

Of all the forests planted by the New Zealand Forest Service the most extensive is that of Kaingaroa. Covering one thousand square miles of what was formerly barren pumice ground, it is the largest man-made forest in the world. It is rented out by the state to a private company, the Kaingaroa Logging Company Ltd which is responsible for the felling and loading of logs onto the state-owned Murupara Railway. The logs are then carried to the new town of Kawerau, thirty miles away, where the mill of the Tasman Pulp and Paper Company Ltd has been built at a cost of £15,000,000. There the logs (mostly the fast-growing Radiata pine), are used for the manufacture of newsprint, sawn timber and pulp, the three processes being inte-

grated so as to lower production costs; (the newsprint is made by blending a higher proportion than is usual of groundwood pulp with the more expensive chemical pulp).

Even with the Kawerau mill working at full capacity, Kaingaroa Forest will be able to provide a continuous and, it is expected, endless supply of timber. This is because the New Zealand Forest Service has undertaken constant replacement planting. In addition to this an increasing area of land is being reclaimed and newly planted at the rate of 100 "farms" a year—each farm comprising 150 acres.

As a sea-outlet for the produce of the Kawerau mill a port has been constructed at Mount Maunganui, capable of handling three ocean-going freighters at once. The first vessel docked in 1955 with a cargo of raw material for the mill.